



DEPARTMENT OF TRANSPORTATION

National Highway Traffic Safety Administration

[Docket No. NHTSA-2022-0029]

Denial of Motor Vehicle Defect Petition, DP21-005

AGENCY: National Highway Traffic Safety Administration (NHTSA), Department of Transportation.

ACTION: Denial of petition for a defect investigation.

SUMMARY: This notice sets forth the reasons for the denial of a petition submitted on September 27, 2021, by Mr. James Lamb to NHTSA's Office of Defects Investigation (ODI). The petition requests that the Agency initiate an investigation into alleged "defects in the 2006 J1939 databus," citing a 2016 research paper published through the University of Michigan. On December 23, 2021, NHTSA opened Defect Petition DP21-005 to evaluate the petitioner's request. After reviewing the information provided by the petitioner regarding the alleged defect and conducting searches of complaints from vehicle owners, operators, and fleet supervisors, NHTSA has concluded that there is insufficient evidence to warrant further action at this time. Accordingly, the Agency has denied the petition.

FOR FURTHER INFORMATION CONTACT: Mr. Ryan Rahimpour, Medium and Heavy-Duty Vehicle Defects Division, Office of Defects Investigation, NHTSA, 1200 New Jersey Ave. SE, Washington, DC 20590 (telephone 202-366-8756).

SUPPLEMENTARY INFORMATION:

1.0 Introduction

Pursuant to 49 CFR 552.1, interested persons may petition NHTSA requesting that the Agency initiate an investigation to determine whether a motor vehicle or item of replacement equipment fails to comply with applicable motor vehicle safety standards or contains a defect

that relates to motor vehicle safety. 49 U.S.C. 30162; 49 CFR part 552. Upon receipt of a properly filed petition, the Agency conducts a technical review of the petition, material submitted with the petition, and any additional information. 49 U.S.C. 30162(c); 49 CFR 552.6. After the technical review and considering appropriate factors, which may include, among other factors, Agency priorities, and the likelihood of success in litigation that might arise from a determination of a noncompliance or a defect related to motor vehicle safety, the Agency will grant or deny the petition. 49 U.S.C. 30162(d); 49 CFR 552.8.

2.0 Petition

Mr. James Lamb (the petitioner), Executive Director of the Small Business in Transportation Coalition (SBTC), submitted a petition to NHTSA on September 27, 2021. The petition requested NHTSA to initiate a defect investigation into the potential hacking susceptibility of the Society of Automotive Engineers (SAE) J1939 Data Bus standard.

In support of the petition, the petitioner cited a 2016 study from University of Michigan (Michigan) researchers, entitled Truck Hacking: An Experimental Analysis of the SAE J1939 Standard, which alleges a SAE J1939 Data Bus vulnerability in a Model Year (MY) 2001 school bus and a MY 2006 Class-8 semi-tractor.¹ The study alleges that, due to the vulnerability, vehicle critical safety functions such as the accelerator control or braking systems are susceptible to unauthorized access and control, increasing motor vehicle safety risks. The petition includes no other specification with respect to affected makes or models of vehicles with the alleged safety defect.

3.0 Analysis

On December 23, 2021, ODI opened Defect Petition Investigation DP21-005 to evaluate the petitioner's request. In evaluating the petition, ODI reviewed the cited University of

¹ Burakova, Y., Hass, B., Millar, L., Weimerskirch, A., (2016). Truck Hacking: An Experimental Analysis of the SAE J1939 Standard. woot16-paper-burakova.pdf (usenix.org).

Michigan study to understand and determine the scope and feasibility of the alleged defect and reviewed the NHTSA database for similar complaints.

The petitioner did not specify the make and model of the vehicles with the alleged safety defect. The only categories of relevant subject vehicles specified were found in the Michigan study: MY 2001 school buses and MY 2006 Class-8 semi-tractors.

After reviewing the available information and using ODI's risk-based processes, ODI has not identified evidence that would support opening a defect investigation into the subject vehicles. The vehicle vulnerabilities reported in the Michigan study required physical access to the J1939 connector in order to affect vehicle critical safety functions such as the accelerator control or braking systems. Whether there is a potential for remote compromise is a factor that NHTSA has considered in evaluating the likelihood or frequency of a potential safety defect. The Michigan study did not demonstrate a remote compromise of these vehicles. In addition, based on the age of the subject model year school buses and semi-tractors, they do not have over-the-air software update capabilities or an internet connection to make remote compromise possible.

ODI conducted a search for similar complaints received by the Agency and found no complaints of any type related to this alleged vulnerability, aside from the Petition. This evaluation included searches of complaints from vehicle owners, operators, and fleet supervisors. ODI has not found any similar events, complaints, or allegations suggesting a real-life vulnerability based on the available information. Therefore, given a thorough analysis of the potential for finding a safety-related defect in the subject vehicles, and in view of NHTSA's enforcement priorities, a defects investigation is unlikely to result in a finding that a defect related to motor vehicle safety exists.

4.0 Conclusion

NHTSA is authorized to issue an order requiring notification and remedy of a defect if the Agency's investigation shows a defect in the design, construction, or performance of a motor vehicle that presents an unreasonable risk to safety. 49 U.S.C. 30102(a)(9), 30118. Given that the

existing information does not provide evidence of a real-life vulnerability in the alleged subject vehicles, caused by a vehicle-based defect, it is unlikely that an order concerning the notification and remedy of a safety-related defect would be issued due to any investigation opened upon grant of this petition. Therefore, and upon full consideration of the information presented in the petition and the potential risks to safety, the petition is denied. The denial of this petition does not foreclose the Agency from taking further action if warranted or making a future finding that a safety-related defect exists based upon additional information the Agency may receive.

Authority: 49 U.S.C. 30162(d); delegations of authority at CFR 1.95 and 501.8.

Anne L. Collins,

Associate Administrator for Enforcement.

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